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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/290,855	04/13/1999	ABDUL GHAFOOR AKRAM	1233	1352

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/290,855	Applicant(s) Akram et al.
	Examiner Man Phan	Art Unit 2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Apr 13, 1999*.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-3, 6-9, and 11-19* is/are rejected.

7) ☒ Claim(s) *4, 5, and 10* is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 6
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. The application of Akram t al. for a "Method and apparatus for simultaneous multiline phone and data services over a single access facility" filed 04/13/1999 has been examined. Claims 1-19 are pending in the application.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:

Reference characters (251), (252), (253) as shown in Fig. 2.

Reference character (315) as shown in Fig. 3.

Reference character (442) as shown in Fig. 4B

Reference character (458) as shown in Fig. 4C

Reference character (508) as shown in Fig. 5A

Reference characters (526), (528) as shown in Fig. 5B.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference characters (530), (532) as described in page 12, lines 23, 26.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "330" (as shown in Fig. 3) and "300" (as described in page 10, line 1 for Fig. 3) have both been used to designate as "router".

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because

reference characters "264" (as shown in Fig. 2) and "464" (as described in pages 11, lines 21, 30; page 12, line 6 for Fig. 2) have both been used to designate as "data port".

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "524" (as shown in Fig. 5B) and "354" (as described in pages 12, lines 22 Fig. 5B) have both been used to designate the same step.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not

commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

8. Claims 1-3, 6-9, 11, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arimilli et al. (US#5,682,386) in view of Neubauer et al. (US#6,269,095).

With respect to claims 1 and 7, Arimilli discloses a data multiplexing network which multiplex data, facsimile and compressed voice over a single composite link. Arimilli teaches in Fig. 4A a detailed block diagram showing the use of the data/voice/fax multiplexor 300a of the present invention to combines both telephone (voice), facsimile through a variety of connections with data over a single composite link to a remote site. The system including a sync modem 314 for exchanging communications signals with a communications network and for exchanging an incoming/outgoing digital signal with a statistical multiplexor 300a (Col. 2, lines 33-48 and Col. 5, lines 24 plus). Arimilli further teaches in Fig. 6C a detailed block diagram of the asynchronous channel cards, the aggregate cards and the voice/fax cards, respectively, of the high speed statistical multiplexor shown in Fig. 4 for the multiplexing a plurality of outgoing encoded signals from a plurality of telephone devices into the outgoing digital signal, and for demultiplexing the incoming digital signals into a plurality of incoming encoded telephone call signals (Col. 9, lines 45 plus).

However, Arimilli does not expressly disclose that at least one call processing

element coupled to the statistical multiplexor for converting the plurality of incoming encoded telephonic call/outgoing phone signals into a plurality of incoming phone/ outgoing encoded telephonic signals. In the same field of the endeavor, Neubauer discloses a gateway system 1000 in which the voice payload data processing unit 1008 may include a plurality of digital signal processors (DSP). Typically, one DSP handles the call processing (e.g., real-time vocoding, silence suppression, echo cancellation, DTMF filtering, and .mu.-law/a-law conversion) of three or four channels. The IP Network Interface 1002 performs IP Network packetizing for received voice payload data packets from the voice payload data packet unit 1008. This includes, for example, encapsulating the data using RTP, UTP, IP and Ethernet headers. The gateway system 1000 may support both voice and fax operations (See also Figs. 4, 6; Col. 1, lines 44 plus).

Regarding claims 2, 3 and 8, 9, Neubauer further teaches a Voice over IP gateway which bridges the public switched telephone network (PSTN) or integrated services digital network (ISDN) with the packet-switched data network (TCP/IP Local Area Network). Such a VoIP gateway is configured to provide IP call control and IP data transport, which includes compression/decompression of voice channels using G.723.1 vocoding. In addition, PSTN or ISDN call control and compression and packetization are provided, typically using G.711 vocoding (Fig. 1; Col. 1, lines 12 plus).

Regarding claims 6, 11, Neubauer teaches in Fig. 4A the basic elements connected to the statistical multiplexor 300a, including PCS 301a-301n which are connected to channel ports 302a-302n for exchanging the encoded signals with the data device, and wherein digital signals 303 are exchanged with a PC 301, the phone signals 310 are

exchanged with a telephone 311a or a fax machine 312a (See Fig. 4A, Col. 3, lines 9 plus).

With respect to claims 18-19, This claim differ from claims Arimilli in view of Neubauer in that the claims recited a computer program product for performing the same basis of steps and apparatus of the prior arts as discussed in the rejection of claims 1-3. It would have been obvious to a person of ordinary skill in the art to implement a computer program product in Arimilli in view of Neubauer for performing the steps and apparatus as recited in the claims with the motivation being to provide the efficient enhancement to the exchanging communications signals for providing simultaneous multiline telephone and data calls, and easy to maintenance, upgrade.

One skilled in the art would have recognized the need for effectively and efficiently providing multiline telephonic and data services over a single access facility using data multiplexing network, and would have applied Neubauer's novel use of the digital signal processor for encoding the incoming telephone channels into Arimilli's teaching of the high speed statistical communication multiplexers. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Neubauer's B-Channel synchronization for G-723.1 vocoding into Arimilli's data/voice/fax compression multiplexer with the motivation being to provide method for supporting the multiline telephonic and data services over a single access facility.

9. Claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arimilli et al. (US#5,682,386) in view of Neubauer et al. (US#6,269,095), and further in

view of Rao (US#5,506,844).

Regarding claims 12, 14, Arimilli et al. and Neubauer et al. disclose the claimed limitations discussed in paragraph 8 above. However, Aramilli and Neubauer do not expressly disclose the claimed feature of a control coupled to the at least one call processor for controlling the call processor and for exchanging signaling information with the gateway switch. In the same field of endeavor, Rao teaches in Figs. 2 & 3 the block diagrams of a system using multiplexer for access to a communication channel, in which a system controller 250 coupled to call processor for controlling the call processor and for exchanging signaling information with the gateway switch (Col. 2, lines 2 plus, and Col. 6, lines 60 plus).

Regarding claims 13, 15, Arimilli teaches in Fig. 6C a router coupled to the statistical multiplexor for routing packets to the Internet or other data service and wherein the set of multimedia calls includes at least one telephonic and at least one data calls (Col. 9, lines 45 plus). Neubauer further teaches a Voice over IP gateway which bridges the public switched telephone network (PSTN) or integrated services digital network (ISDN) with the packet-switched data network (TCP/IP Local Area Network). Such a VoIP gateway is configured to provide IP call control and IP data transport, which includes compression/decompression of voice channels using G.723.1 vocoding. In addition, PSTN or ISDN call control and compression and packetization are provided, typically using G.711 vocoding (Fig. 1; Col. 1, lines 12 plus).

Regarding claims 16-17, the SS7 network is critical to call processing, and the SS7 protocol provides both error correction and retransmission capabilities to allow continued

service in the event of signaling point or link failures. Arimilli teaches in Figs. 5B-D the diagrams showing the data/voice/fax compression multiplexer in associated with the PSTN for the remote voice telephone and fax equipment.

One skilled in the art would have recognized the need for effectively and efficiently providing multiline telephonic and data services over a single access facility using data multiplexing network, and would have appliedRao's system controller for passing signals to the statiscal multiplexor and Neubauer's novel use of the digital signal processor for encoding the incoming telephone channels into Arimilli's teaching of the high speed statistical communication multiplexers. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Rao's method for configuring a statistical multiplexor to dynamically allocate communication channel bandwidth, and Neubauer's B-Channel synchronization for G-723.1 vocoding into Arimilli's data/voice/fax compression multiplexer with the motivation being to provide method for supporting the multiline telephonic and data services over a single access facility.

Allowable Subject Matter

10. Claims 4-5 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is an examiner's statement of reasons for the indication of allowable subject matter: The prior art of record fails to disclose or suggest a means for bypassing the modems, statistical multiplexor and call processing element, as recited in claims 4 and 10. The prior art of record also fail to disclose or suggest wherein the control circuitry communicates with at least one call processing element and controls the customer premises equipment interface circuitry; and customer premises equipment interface circuitry for providing at least one of the group comprising DC power, indications of on-hook and off-hook conditions, ring current, ring-back tones or busy tones, as recited in claim 5.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Jennings et al. (US#6,430,174) is cited to show the communication system supporting simultaneous voice and multimedia communications and method of operation therefore.

The Scott (US#6,084,885) is cited to show the apparatus and method for DSP sharing using statistical properties of data..

The Christie, IV (US#6,430,176) is cited to show the multimedia channel management through PSTN signaling.

The Jones et al. (US#6,141,341) is cited to show the voice over IP telephone system and method.

The Pickett (US#6,181,694) is cited to show the systems and methods for multiple mode voice and data communications using intelligently bridges TDM and packet buses.

The Goldman et al. (US#6,134,235) is cited to show the POTS/Packet bridge.

The Chao et al. (US#5,124,978) is cited to show the grouping network based non-buffer statistical multiplexor.

The Venkatakrishnan (US#5,768,350) is cited to show the real-time and non-real-time data multiplexing over telephone lines.

The Wagner et al. (US#5,761,292) is cited to show the simultaneous transfer of control information with voice and data over a PSTN line.

The Bansal et al. (US#6,263,063) is cited to show the system and method for provisioning an extra line on demand and for selectively connecting calls with a plurality of devices.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (703)305-1029. The examiner can normally be reached on Mon - Fri from 6:30 to 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu, can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703)305-3988.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

14. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to: (703) 305-9051, (for formal communications intended for entry)

Or: (703) 305-3988 (for informal or draft communications, please label "PROPOSED" or "DRAFT"). Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Mphan

09/04/2002.

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600